ITEA 2 Magazine

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ITEA 2 Symposium 2008
Road ahead for European software research

High Definition TV for Europe
HD4U – ITEA success story
HDTVNext - taken up the HDTV baton

Opening ITEA 2 Call 4
Prepare yourself for the PO days in Istanbul!

ITEA 2 Symposium

De Doelen Congress Centre
Rotterdam, the Netherlands
21 & 22 October 2008

European competitiveness and well-being through ICT-based innovation

ITEA 2
INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

European leadership in Software-intensive Systems and Services – the future of embedded and distributed software – www.itea2.org

ITEA 2 is a EUREKA strategic ICT Cluster programme

Content

Editorial

ITEA: the benefit of complementarity

The 2008 proof of evidence

Gérard Roucairol
Vice-Chairman of the ITEA 2 Board

Co-operative industrial research and development (R&D) relies in general on two alternatives models: horizontal or vertical. The first model leads competitors to work together by pooling similar resources and competences to decrease cost and risks by economies of scale. In this model, the concept of R&D critical mass is key for instance to removing a strong upstream technology roadblock, which prevents potential and future enlargement of a market already accessible by everyone, or to achieving some standardisation. This type of co-operation is also called horizontal, since it refers to a similar positioning of the partners in the value chain.

The second model – let us call it the vertical model – leads to alliances of firms with complementary technology and/or market assets. Here the notion of verticality refers to different positions in an existing or a new value chain.

Of course none of the co-operative R&D initiatives we know fall strictly in one or the other model. The reality is more a coexistence or even a hybridisation of the two models inside one R&D programme. However, it is clear that the model on which ITEA mainly relies is the second, as we can observe it at work in our projects. This has some major and measurable effects.

An indicator is the fast increasing participation of small and medium-sized enterprises (SMEs) in our programme, as it has been confirmed by the Call 3 for Project Outlines. They are working as technology providers with large corporations that see themselves as technology integrators in the framework of an ecosystem reinforcing the position of each member in the context of a global game. It can also be observed from Call 3: a growing number of new partners joining our projects. This also shows the need for complementarity that can be fulfilled by the overall ITEA community.

The consequences of having various actors of different or equivalent sizes but with different activities inside the same project are extremely beneficial and also observable.

They lead potentially to the creation of totally new markets as has been shown by the LOMS project, which won the 2008 ITEA gold achievement award.

This project developed an open-service architecture allowing SMEs and non-professional users to set up easily their own mobile local services and also charging from the content or service provisioning in business-to-consumer or business-to-business scenarios, hence transforming local and classical small businesses into service operators.

A similar effect in terms of new market creation is achieved in our telemedicine projects NUADU and AMIE. Those two projects demonstrated at our symposium this year show an enlightening example of co-operation between various actors, leading to a new value chain and involving medical equipment suppliers, telecommunications equipment suppliers, telecommunications operators, software houses ,….

Another dramatic effect of vertical co-operation is technological convergence paving the way to potential market and business convergence. As we know, the technical convergence between the information technologies, telecommunications and multimedia industries is already well underway. However, ITEA built the 'melting pot' where this phenomenon can be extended to embedded systems suppliers.

Projects such as SIRENA, which won the 2006 ITEA gold achievement award, ANSO, which won the so called Vice Chairman 2008 award, and other projects like SODA, pioneered the concept of the 'web of objects' that allows any physical objects equipped by not more than a microcontroller to be seen as offering services on the worldwide web. This carries in itself potential fundamental ruptures in future industrial and business structures.

As a conclusion, it appears that ITEA represents in Europe a unique opportunity to lead this convergence and related technology and market transformations. The welcome expansion of activities represented in the ITEA board with a very significant telecommunications operator such as Telefonica will no doubt reinforce this position.

Gérard Roucairol

Colophon

ITEA 2
INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

ITEA 2 (Information Technology for European Advancement) is Europe's premier industry-driven co-operative programme for pre-competitive R&D in Software-intensive Systems and Services (SiSS).
As a EUREKA Cluster programme, ITEA 2 stimulates and supports projects that will give European industry a leading edge in the area of SiSS.
M – ITEA 2 Magazine is published three times per year by the ITEA 2 Office in English. Its aim is to keep the ITEA 2 community and beyond updated about the ITEA 2 programme status and progress, achievements, projects and events.

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Submissions:
The ITEA 2 Office is interested in receiving news or events linked to the ITEA 2 programme, its projects or in general: R&D in the Software-intensive Systems and Services field. Please submit your information to communications@itea2.org.

Opinions expressed in the *M – ITEA 2* Magazine do not necessarily reflect those of the organisation.

Special thanks to all contributors to this issue of the *M – ITEA 2* Magazine.

ITEA 2 Symposium

Marking out the road ahead for European software research

ITEA 2 Symposium

De Doelen Congress Centre
Rotterdam, the Netherlands
21 & 22 October 2008

European competitiveness and well-being through ICT-based innovation

The 2008 ITEA 2 Symposium and the joint ARTEMIS & ITEA Co-summit in Rotterdam in October focused on the need for close co-operation and synergy between all stakeholders in the European software industry and how this is to be achieved. Nearly 600 R&D actors and policy makers representing industry, academia and public authorities participated in the event and accompanying exhibition. Their overall evaluation was that it was a very good event.

Overviews of progress were highlights of the ITEA Community day, which also provided a first view of the new ITEA Roadmap – 3rd edition. The LOMS, MARTES and Trust4All projects offered their perspectives as shortlisted candidates for the 2008 ITEA Awards. And special focus sessions were held on Open Source and telemedicine. A look at the overall figures for ITEA 2 Call 3 showed continuing growth in participation with some 60% of the 280 partners involved new to ITEA. Eugenia Taillefer of the Directorate-General for Information Society Development provided an insight into ITEA 2 funding In Spain.

Speaking on behalf of Maria van der Hoeven, Dutch Minister for Economic Affairs, Director General for Enterprise & Innovation Renée Bergkamp opened the ARTEMIS & ITEA Co-summit by highlighting the important role intelligent systems and services play in social and economic terms. "ITEA and ITEA 2 have set standards for co-operation. However we need to translate research into results and pool our resources," she said.

Keynote presentations included an overview of EUREKA from High Level Group Chairman Manuel Nunes da Ponte, 'Mega trends 2012' from Oliver Christ, Director SAP Research Switzerland and 'Innovations to improve the quality of people's lives' from Rick Harwig, Chief Technology Officer of Royal Philips Electronics. A series of parallel sessions covered creative industries, industry-as-laboratory, Open Source, Web of Objects, and health and wellbeing.

MAJOR DRIVER FOR INNOVATION

The recent 'Aho Report' on high-tech research in the EU emphasised the importance of software-intensive systems & services as major drivers of innovation in Europe's most competitive industries. Viviane Reding, EU Commissioner for Information Society and Media, called the report a wake-up call for innovation in Europe. In a video presentation, she insisted that, "without daring and risk taking, no breakthroughs are possible. The challenges to the industry are considerable but the results are worthwhile."

ITEA 2 Chairman Prof. Rudolf Haggenmüller highlighted the progress ITEA has already achieved in: High Definition TV, now ready for deployment; the AUTOSAR software standard for the automotive industry; and dealing with product lines rather than just with products. He also pointed to two key emerging technologies: the 'Web of Objects' and a move from a product-oriented to a service-oriented economy. Nevertheless, he saw several grand challenges for Europe in the next ten years that require a broader eco system to tackle. On the economic level the challenge is service innovation while on the societal level sustainability is one of the grand challenges on which ICT research has to react.

ARTEMISIA President Dr Klaus Grimm emphasised the strong position Europe holds in the global software market but noted that the European embedded software industry is still too fragmented. "We can only face the challenges in a combined approach with all the industries concerned," he insisted. "We need self-sustaining eco systems and programmes to stimulate this and achieve the required breakthroughs."

2008 ITEA ACHIEVEMENT AWARD

The ITEA 2 Board again presented its annual awards for high-level technical contributions. The 2008 Achievement Awards went to:

- LOMS mobile services creation (Gold) – this project has made it possible to combine service creativity with powerful features of a well-controlled service environment;
- MARTES model-based methodology (Silver) – addressing business risks, systems domains and complexity to boost embedded-systems development productivity; and
- Trust4All (Bronze) – which delivered a solid, flexible and trustworthy architecture for embedded systems in several domains.

An exceptional one-off award went to the ANSO project at the request of ITEA 2 Vice-Chairman Gérard Roucairol for its contribution to the realisation of the Web of Objects.

MAJOR EXHIBITION

The ITEA 2 exhibition again served as a major focus, showcasing achievements. It featured 48 ITEA/ITEA 2 projects representing 6,860 person-years of effort and accounting for €734 million, 3 EU IST projects and a special section featuring European healthcare projects including demonstrations from the Robert Bosch Partnership for the Heart project and Philips Healthcare.

There was also important participation by eight national ICT competitiveness clusters: Pictor (BE); Safetrans (DE); Point-one (NL); AESE, Cap Digital, Minalogic and System@tic (FR); and Prometeo (ES).

Overall visitor evaluation of the exhibition was good. Awards for best presentation of ITEA results in the exhibition went to SmartTouch (Gold), LOMS (Silver) and CAM4HOME (Bronze).

MAPPING THE WAY AHEAD

Several ITEA 2 founding companies were involved in developing the third edition of the ITEA roadmap – a major revision in line with the ITEA 2 programme launched in 2006. The new document was produced by a group of 15 experts in software-intensive systems and services representing a wide variety of industries and service activities that has tried to foresee the evolution of software until 2014. Nearly 100 people from the ITEA community reviewed the document and gave valuable input already included.

This exceptional document provides an innovative global vision of the future for the entire software community. It also proves the potential of ITEA 2 to contribute significantly to European industrial competitiveness over the coming six to seven years. An important change was a move from the previous technology/domain approach to a series of 'me'/'group'/'society' viewpoints to support a clear 'outside-in' view.

"The current information technology era is coming to an end and being replaced," said Jean-Luc Dormoy of CEA DRT. "We are reaching the limit of Moore's law, we need to move from large systems to systems of systems, software requires brains and methods that we do not necessarily have, and we are facing challenges without precedent, so we now need some breakthroughs."

ITEA 2 Symposium

Symposium sessions

A series of special focus sessions and parallel sessions was presented during the ITEA 2 Symposium in Rotterdam. All the presentations are available on the Symposium website: http://symposium.itea2.org/itea2_programme

Special Focus Sessions Tuesday 21 October

Telemedicine

in coordination with the AmIE and NUADU projects

Nuadu
Networked “healthcare and well-being” services

By Peter van der Meulen

The NUADU project focuses on networked “healthcare and well-being” services for people at home and on the move. The goal of NUADU is to explore the opportunities for providing ‘healthcare and wellness’ services and applications that facilitate more cost effective and efficient solutions. The main technical areas of interest are:

1. Sensors and actuator networks
2. Mobile and Home Hubs
3. Web based services platform
4. Enterprise telecommunication services

For this exploration NUADU plays much attention to demonstrators and pilot sites. It proved to be very valuable to bring the ideas in real practice. The NUADU Pilot sites are working to meet these market challenges in the following ways:

1. Preventative measures
   Espoo, Finland; encourage more effective healthcare self-management by municipal workers via a health status monitoring & health promotion information (phys & psych) service.
   Valencia, Spain; encourage better self-management of nutrition, activity & weight by consumers, via a web based service, to reduce the likelihood of cardiac disease and obesity.
2. Enabling independent living
   Kunheim, France; Maintain the ability of handicapped and/or elderly people to live independently with limited assistance via networked services and local personal help.
   Hoensbroek, Netherlands; Reduce need for stroke patients to physically visit rehabilitation centre and improve recovery times via on-line physiotherapy monitoring and coaching.
3. More effective management of chronic conditions
   Madrid, Spain; enable more extensive monitoring of heart patients as they go about their daily lives via mobile on-line connection with cardiac monitoring service.

Since the project is reaching the end, some preliminary conclusions can already be reported:

- Standardisation:
  - Very diverse set of available technologies: hard to standardise
- Commonality can be found in:
  - Ontology
  - UI concepts
  - Ways to motivate users
- Effective to deal with the issues created by the aging society:
  - Prevention in stead of healing (personal health)
  - Living independently (personal independence / quality of life)
  - Reduction of healthcare costs
- Business model complex:
  - Not clear who will pay (user, physician, government, insurance)
  - Not clear who gets the revenues
- Pilot sites:
  - Very valuable to evaluate requirements and concepts

In the Special Focus Session the Nuadu project was presented, with the main intention to share the lessons learned during this almost finalized project with the people who will continue these activities, especially participants of the AmIE project. Also a set of questions and statements was prepared to trigger discussions and to feed the AmIE project with material for internal considerations during their project.

AmIE
Ambient intelligence for the elderly

By Ricardo de las Heras

Europe now has both the highest proportion of, and the greatest increase in, elderly citizens of any major world area. This is leading to an increase in the number of people with impairments, disabilities or chronic illnesses. Development and use of new technologies should provide relief in many situations, facilitating the care and independence of the elderly.

AmIE aims to offer a complete intelligent ambience – indoors and out – to improve the quality of life. It will achieve this by predicting potential problems and providing customised support to people in need of assistance, according to their own specific situation in terms of need and character – all in a non-intrusive and respectful way. As a result, users will be able to extend their stay at home in an independent and autonomous way.

Several services are being developed in AmIE, such as: Habit Tracking, Food Management, Location within the house, different multimodal Interactions according to the necessities and impairments of the users, IPTV service to facilitate communication with relatives, and breathing assistance for people with Apnoea episodes.

The Rotterdam session presented the project consortium, an approach to the system's architecture and its position in the current market. Finally some questions were launched to the audience to open a discussion about these types of systems, their acceptation by final users and the real needs that should be covered to accomplish user's expectations.

Open Source

By Erik Rodenbach

The idea for a workshop on open-source software (OSS) arose during meetings between ITEA 2 and national ICT competitiveness clusters earlier this year. Open-source software is an important topic and the possibility for co-operation between the various ICT clusters with ITEA 2 as a facilitator was discussed. Apart from assisting in the initiation of international projects on open source by the ICT Clusters, the idea of having a more open discussion in Rotterdam on this topic was raised.

As requested, the sessions involved a panel discussion with maximum interaction between panellists and the audience. The panel had a good mix of representatives participating in national ICT clusters and in large and small companies. These included ICT Clusters Prometeo (Spain) and Aerospace Valley (France), large companies Airbus and Philips, and SMEs Mandriva (France) and Apertus (Spain). The session was moderated by Dr Björn Lundell of the University of Skövde in Sweden. Dr Lundell has long experience in open source and had already moderated several sessions on this topic. He is also technical manager of the ITEA 2 COSI project.

Following an introduction by Dr Lundell, panellists gave their views on open source and what it meant for their organisations. This was followed by a lively discussion with the audience. Topics addressed included the need for social skills in OSS development, the need to set up a good community and finding your way in open source. The OSS market is still rather fragmented and there are a lot of initiatives and results also in ITEA projects.

New ITEA 2 vice-chairman Philippe Letellier wound up the session with a summary of the discussions. He pointed out that national ICT clusters could play a major role in addressing the OSS market and provide the required critical mass. He invited the clusters to propose joint initiatives for new OSS projects in the next ITEA 2 call at the beginning of 2009.

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Parallel Sessions Wednesday 22 October

Health and Well-being

By Stan Smits

Several key challenges have to be addressed to achieve a sustainable healthcare system. Improvement in productivity and reduction in healthcare variability require a transformation from a cost-based, doctor-centred system to a value-based, patient-centred one. ICT will play a major role in catalysing this transformation by allowing the aggregation and distribution of patient data and workflow, social networking and clinical support for all medical staff involved in the continuum of patient care.

More focus on prevention and screening will also result in a better quality of life, lower costs and better use of staff. Jeroen Wals of Philips Research illustrated this with the EU Seventh Framework Programme (FP7) HeartCycle project. This identifies two interlinked loops: a prevention-and-lifestyle feedback loop during the well-being phase applying monitoring with direct feedback; and a feedback loop requiring professionals for trusted care if required by the medical condition.

By continuous non-intrusive day and night monitoring in the well-being phase, feedback can be given to improve for instance lifestyle and act as an early warning system. Once the patient requires chronic care, the same monitoring together with medication management can reduce hospitalisations due to professional oversight in the feedback loop at an affordable cost.

Laurens van der Tang presented VitalHealth Software's health-management platform for disease-management organisations focused on chronic care. By putting the patient in the centre, the platform focuses on self management of the patient, patient education and professional oversight.

The initial system focused on diabetes but has been extended to also support chronic obstructive pulmonary disease (COPD) and controlled ventricular response (CVR). The result of deploying the system for over 50,000 diabetes patients over a period of 12 months shows significant improvements in the quality of care and compliance in terms of checks of diabetes patients. However improvements are required in smoking and obesity lifestyle changes; the system will be extended to address these issues. Overall professional and patient satisfaction is high and compliance has improved significantly.

Web of Objects

By Francois Jammes

More than 80 people attended the successful Web of Objects session. Presentations were made by several major industrial companies and competitors – Schneider Electric, ABB, EADS, Thales and SAP – from several application domains, such as automation and telecommunication.

The technologies required to make the Web of Objects are already available today. These include Device Profile for Web Services (DPWS), WS-Management and WS-Security. They are mainly open source and are being standardised. Possible links between devices and IT applications were shown, thanks to developments by SAP at the business-application level.

Several potential application domains – telecommunication, manufacturing automation and process control – showed how they are integrating these technologies in their solutions. Interesting questions were raised regarding the applicability and limits of such technologies. These included: the implementation cost at the device level, the real-time capability; and compatibility with process control requirements – real time control loops, ….

Investigation of these technologies and their applications was made possible by the ITEA SIRENA project that finished in 2005 and which showed the feasibility. SIRENA received the ITEA award in 2006 for this demonstration.

Thanks should also go to the continuing ITEA2 SODA and IST SOCRADES projects, which had a common stand in the exhibition area. Several applications were demonstrated, including a real industrial automation machine with a distributed control solution using DPWS embedded in low-cost industrial devices, physically showing the Web of Objects concept.

Creative Industries: Where design meets technology

By Jean Gelissen

The application of software-intensive systems (SiS) has traditionally been limited to the professional domain – high and low end – and black boxes for consumers. Today, these systems are part of everyone's everyday's life, in fact it would be very hard for most to function without using systems such as mobile phones, navigation devices, personal digital assistants, the greater part of the functionality of modern cars and the Internet – for both professional use and leisure.

The extended flexibility, functionality and diversity of these systems have also been discovered by the creative community and has resulted in a new creative wave by applying SiS in art, music, advertising, design processes and the like. During the parallel session some examples of this new wave of creative initiatives were presented and demonstrated;

Innovations in gaming

Computer games are now seen as a creative industry and as cultural. But what is the nature of the ideas driving the creative development processes involved? The many different aspects make it a challenge to keep coherence across the whole process. Panel discussions explored how key aspects of game development have changed and the impact on technology and their technological basis and especially on standardisation.

Fashion explorer

Future Internet technologies will enable services to adapts ready-to-wear patterns to individually created clothing – combining advantages of ready to wear and tailormade; the consumer will be able to see in a real-time animated 3D simulation the selected designs and fabrics projected on an image of his own pre-scanned body and can interactively adjust the design.

Serious application of virtual worlds

Web 3D is not a completely new platform making 'the old web' obsolete. Web 3D cannot exist without all the clever solutions developed in the past that find a perfect place in a jigsaw of (3D) possibilities. Activeworlds Europe presented several professional and successful virtual worlds used in both educational and business settings.

Intelligent playgrounds

Children spend too much time watching TV and playing computer games, which results in a growing number of children lacking social contact with peers and being overweight. This presentation demonstrated how innovative, interactive products can stimulate children to be active, play and have fun.

Open Source: a solution for embedded systems software?

By Sylvie Robert

Today, open source is recognised as an easy and free way to build commodities for IT applications in general. However, when considering software development for embedded systems in industrial domains such as aerospace, automotive, and telecommunications, specific constraints arise – such as long-term availability and certification. Is it possible to use open source as a concrete solution in this context?

The goal of this session was to give an overview of the use of open-source solutions in the embedded systems industry.

In the first part dedicated to the *provider view*, Michaël Friess from AdaCore presented the concept of a *business model based on open-source licences* and described how AdaCore operates its services on open-source products. Ralph Müller from Eclipse presented the E*clipse Foundation and the open-source eco-system*. He described how open-source foundations, licenses and governance models and an open architecture can support vertical industries. He also presented many examples of concrete industrial implementations.

In the second part dedicated to the *end-user view*, Sylvie Robert from Airbus presented the reasons why Airbus has moved to an open-source strategy for avionics software engineering. The presentation also gave a status of the *implementation of open-source solutions for software development* and how the open-source products developed in research projects are now deployed in the software development frameworks of operational aircraft programmes such as the A350 and A380. Finally, David Sciamma from Anyware Technology presented the 'open platform for the engineering of embedded systems' (OPEES) project which aims to establish a community and build the necessary means and enablers to ensure long-term availability of innovative engineering technologies in the domain of dependable/critical software-intensive embedded systems.

Following the presentation of these different viewpoints, there was a lively exchange of ideas that provided participants with a better understanding of the issues at stake.

News

Joint workshop TWINS - MARTES - SPICES - GENE-AUTO projects

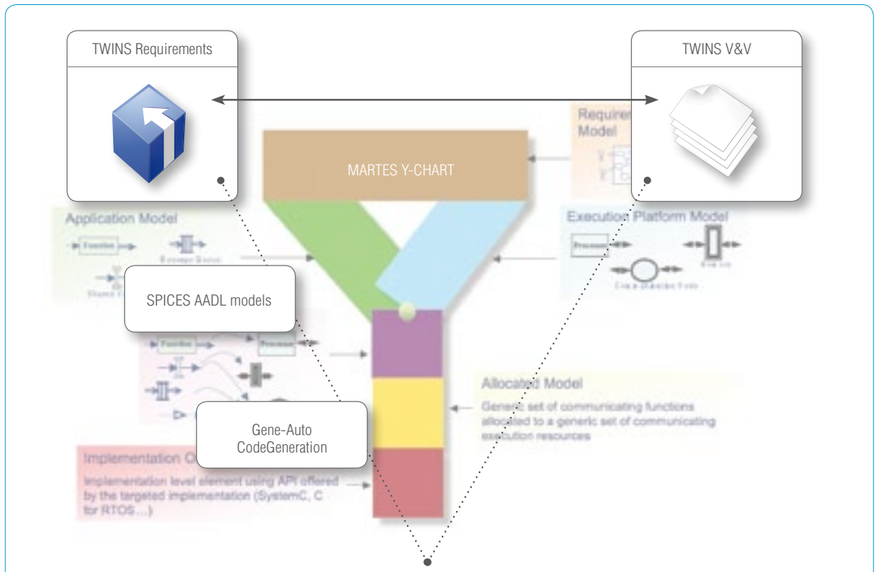
Synergies & commonalities

TWINS

MARTES

Spices

GeneAuto



Several projects that can be categorised as 'software-engineering' projects are being executed or have finished within the ITEA and ITEA 2 framework. As some of these projects seemed to have a complementary character – such as dealing with life-critical applications – it was decided to have a dedicated one-day workshop for them to identify the commonalities and opportunities. The selected projects were MARTES, TWINS, SPICES and GENE-AUTO. This workshop took place on 7 April 2008 at Barco in Kortrijk, Belgium.

As a result of this workshop, it was established that all these projects are targeting the development process in a software/hardware (SW/HW) co-design context. Nevertheless, the focus of the projects themselves is totally different for all as regards the position in the design flow or domain.

For the technical conclusions, three distinct complementarities and commonalities can be highlighted:

1. Clear differentiation between the projects in focus complementarities, domain;
2. Addressing different subsets of the V-model; and
3. Share a common view on reducing the climbing part of the V-model.

For the valorisation and dissemination conclusions, we can highlight the following three recommendations:

- Roadmap – e.g. SPICES – is a good means of showing exploitation;
- Plan effort at ITEA level to support dissemination of project results through e.g.
  - (shared) demonstrator projects;
  - share project industrialisation with other partners/projects;
  - 'institute' or 'body of knowledge' – e.g. repository of all project results;
  - EU conference on best practices for embedded software; and
- Identification of business models.

News

ITEA Project impact – SIRENA:

Devices Profile for Web Services (DPWS) being standardised at OASIS

SIRENA

SODA

LOMS

ANSO

SHOPS

A group of companies led by Microsoft submitted for standardisation to OASIS a set of three related standards for identifying, communicating with and controlling network-connected devices of all kinds using Web Services: DPWS, WS-Discovery, and SOAP-over-UDP – collectively referred to as Web Services Discovery and Web Services Devices Profile (WS-DD).

DPWS was the linchpin of the SIRENA project, which pioneered its use in embedded devices and produced several open-source implementations (soa4d, ws4d). The SIRENA approach – considered a real breakthrough in the industrial sector – has raised wide interest as evidenced by the unabated popularity of its website. The project received the ITEA Achievement Award 2006 and its results are used in several other ITEA (SODA, ANSO, SHOPS, LOMS, OSAMI), IST (SOCRADES, MORE) and other (HOMES, Smart Electricity) collaborative projects, as well as in commercial products. Schneider Electric demonstrated that DPWS can be implemented in a commercial-off-the-shelf chip costing less than €4.

The target date for delivering the WS-DD standards – to be offered for royalty-free implementation – is March 2009.

Members of the OASIS WS-DD Technical Committee include Microsoft, IBM, Schneider Electric, CA, Novell, Software AG, Red Hat, Progress Software, WSO2, Canon, Fuji Xerox, Lexmark and Ricoh.

With 117 products from 37 vendors currently supporting it, the momentum of DPWS among device manufacturers is steadily growing. DPWS is natively incorporated in Microsoft's Windows Vista, Windows Embedded CE and .NET Micro Framework and will be so in Windows 7 and .NET 4.0. DPWS was also adopted by Beckhoff Automation, a prominent vendor in the industrial and building automation fields.

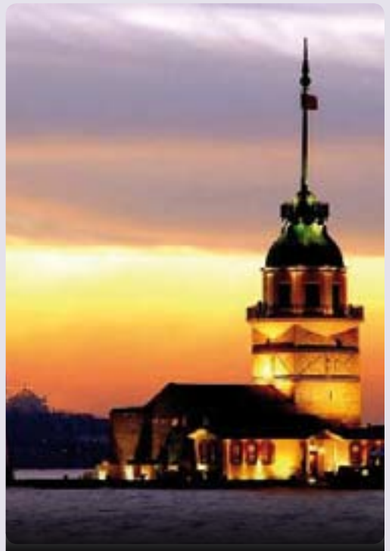
More information:
http://www.oasis-open.org

Project information:
http://www.sirena-itea.org
http://anso.vtt.fi
http://www.shops-itea.org
http://www.loms-itea.org
http://www.soda-itea.org

Programme status

ITEA 2 Call 4 opens 16 February 2009

Prepare yourself for the PO preparation days in Istanbul



ITEA 2 will open its fourth Call for projects on 16 February 2009. Now is already the time to prepare! In order to help you prepare a Project Outline, locate potential partners, join existing consortia and/or find out more about the specifics of the Call, we are organising Project Outline Preparation Days on 16 and 17 February 2009 in Istanbul, Turkey.

ITEA 2 stimulates and supports innovative and pre-competitive R&D projects that will contribute research excellence to Europe's competitive Software-Intensive Systems and Services. SiSS are a vital growth engine for Europe's economy and a key driver of innovation in Europe's most competitive industries – such as automotive, aerospace, communications, healthcare and consumer electronics. ITEA 2 and its predecessor ITEA have a proven track record with major achievements and results in these industries.

As a EUREKA Cluster programme, our approach is inter-governmental, bottom-up and industry-driven, which allows a project idea to attract funding from participating countries even if it is not a priority for all of them. All member countries in the EUREKA framework give financial support to ITEA 2 projects and ITEA 2 is open to partners from large industrial companies, and small and medium-sized enterprises (SMEs), as well as research institutes and universities. Our projects involve at least two companies in two different countries – according to the EUREKA rules.

Our Calls for projects involve a two-step procedure with continuous involvement of the relevant national funding authorities. First, short Project Outlines (POs) are submitted. For those outlines approved, the next step is to submit a Full Project Proposal (FPP). These are evaluated and, if approved, given the ITEA 2 – EUREKA-endorsed – label. Project participants can then apply for funding in their own countries.

If you plan to participate in this fourth Call, now is the time to visit our website, explore what is going on, start defining your project ideas, look for potential consortium partners and investigate local funding possibilities.

ITEA 2 PROJECT OUTLINE PREPARATION DAYS 2009

Turkish involvement in ITEA 2 has grown dramatically over the last years and in 2009, Istanbul is the scene of our *Project Outline Preparation Days – 16 & 17 February*. These days are organised to help you prepare for this fourth Call. Participation is free of charge and open to all those with an interest in our fourth Call.

The aim of this two-day meeting is to help organisations form consortia and generate preliminary outlines for projects by bringing together interested companies, research institutes and universities with innovative ideas for projects in ITEA 2.

In short, this meeting will enable you to:

- Receive general information on ITEA 2 and the project call process;
- Present your idea in a poster session and an elevator pitch;
- Discuss and brainstorm about project ideas in work-group sessions; and
- Contact other interested parties/potential partners from all over Europe.

If you are interested in participating in this two-day event, go to our website and fill-in the online registration form – www.itea2.org/po_days2009!

Who is who in ITEA 2

Meet the new ITEA 2 Vice-Chairman

Read about his background

Philippe Letellier
Institut TELECOM – Deputy Research Director

Philippe Letellier, born in 1957, studied engineering at ENSEM Nancy before obtaining a doctorate in computer science from Paris XI Orsay. In 2000, he obtained an executive MBA from HEC/CPA to acquire a double culture: technology and business.

Philippe has a broad industrial experience (25 years) with start-up and international companies such as what are now Thomson and Thales. His last position was General Manager of the French research centre of Thomson. His main involvement has been in software development for interactive image systems and in R&D management. Among other activities, he was responsible for the definition of strategic views and participated in the definition of the worldwide Thomson Research Programme. He was also deeply involved in standardisation and developed patent production.

Since 2006, he has been Deputy Research Director at the Institut TELECOM, where he is responsible for valorisation, technology transfer and partnerships. In this role, he participates in the building of the innovation ecosystem connecting international companies, SMEs and the academic world around open innovation and research used as a business-development tool.

As of 1 September 2008, Philippe Letellier is Vice-Chairman of ITEA 2.

Post project results

HD4U
ITEA 2 ~ 04027

New compression techniques and algorithms ensure viability of commercial HDTV deployment

While new MPEG4-AVC compression techniques can halve the bandwidth required for high definition television (HDTV), fully exploiting the system also requires that pre- and post-processing modules are available to optimise the complete chain from content creation to end-user. New video compression technology and transmission/reception equipment developed in the ITEA HD4U project means Europe is now ready for the commercial deployment of multi-channel HDTV over digital terrestrial (DTT), satellite and broadband TV networks.

Partners
Euro 1080
Maxisat Oy
Newtec
Philips Belgium
Philips France
Philips the Netherlands
TF1
Thomson Grass Valley
Thomson R&D France
University of Nantes

Countries involved
Belgium
Finland
France
The Netherlands

Start of project
January 2005

End of project
December 2006

Patrick Schwartz
Thomson, project leader HD4U

High definition TV offers resolutions of up to five times that of standard definition TV. But bandwidth requirements are a major challenge, requiring new compression technologies to reduce demands to a minimum. Thomson had developed new encoding technology that made it possible to reduce the bandwidth for a single HD signal to only 6 Mbit/s while conserving good quality. However, as attempts to introduce analogue HDTV a decade ago showed, it was necessary to prove the viability of the technology in all parts of the distribution chain.

"At the beginning of HD4U, HDTV content was almost ready, lots of equipment was available and the first LCD screens were becoming commercially accessible at a reasonable price," explains Patrick Schwartz of Thomson, HD4U project co-ordinator. Missing were all the products between the studio content and the display – encoding, improved satellite modulators, broadband gateways, set-top boxes and even improved post-processing modules in LCD screens.

REDUCING BIT RATES

"The main objective of HD4U was to demonstrate that HDTV was viable for different transmission media," says Schwartz. The most important technologies developed were MPEG4-AVC video compression to reduce the bit rate of the channel transmitted to the end user, together with the pre- and post-processing techniques allowing quality improvement – such as post-processing to increase the final quality of user experience with LCD screens.

Thomson started the HD4U project as it believed the only way to launch HDTV services was to carry out field trials with several different partners. These partners include display makers, electronic system producers, professional equipment suppliers and operators. "Such collaboration made a difference," says Schwartz. "A single company could not have done it alone, the technology is too complex."

Working with ITEA was important. "Not only did it help in finding funding and partners but also in increasing visibility," he says. "For example, we participated two years ago in Paris at the ITEA symposium in a huge demonstration of HD4U in synergy with simultaneous viewing of the major European HD channels broadcasting HDTV and attracting between 400 and 500 people invited to this event."

IMPRESSIVE QUALITY IMPROVEMENTS

Results of the HD4U project include development of a high-definition video encoder, improved picture quality and the assurance of receiver interoperability. Demonstrations showed impressive improvements in quality are available with the new MPEG4-AVC video-compression technology.

Working with ITEA was important. "Not only did it help in finding funding and partners but also in increasing visibility,"

Other important improvements were in modulation and transmission technologies with development of the DVB-S2 standard to reduce satellite bandwidth and IPTV encapsulation to enable HDTV to be sent over broadband networks such as ADSL2. These new technologies were needed to increase the number of HDTV channels transmitted – the target with MPEG4-AVC was to reduce bandwidth by a factor of two.

A key partner was the University of Nantes that worked closely with Thomson on human visual assessment. "This involved two steps: human visual assessment and then seeing how to improve pre-/post-processing algorithms," explains Schwartz. The University of Nantes defined a human visual model and an objective quality algorithm to enable measurement of the quality of the broadcast experience, based on assessments by a panel of 20 people to establish objective criteria. As a result of HD4U, the university has been able to create a spin-off working on measurement and test tools.

WIDE DEPLOYMENT IN EUROPE

There were already 70 HD channels available in Europe at the end of 2007; 150 channels are expected by 2010. However there is a content gap between the 30 million homes that are HD ready and the one million actually watching HDTV. Part of the reason for this is that HD programming has generally been offered as a premium pay-TV service.

Mass acceptance will involve a move to free-to-air (FTA) platforms. As a direct result of this ITEA project, HDTV is now ready for deployment in many European countries over DTT, satellite and eventually IPTV links. FTA DTT broadcasting started in France this year, it was already available on cable; Germany has HD over cable but some commercial hiccups in FTA satellite broadcasting; Italy will offer FTA DTT in 2009; the Nordic countries started FTA DTT in 2007; Spain already provides HDTV on cable but FTA DTT is unlikely before 2012; and the UK has just started broadcasting HD on FTA satellite, with DTT from 2009.

EURO1080 satellite TV operator has chosen MPEG4-AVC for satellite transmission with four HDTV channels commercially launched using technology developed in HD4U. French broadcaster TF1 has convinced the French audiovisual authority to adopt HDTV for DTT; Four free-to-air HDTV channels and one Pay-TV HDTV channel are transmitted since October 2008 in France. Other channels will soon added once technology will allow transmission of more channels or when additional frequencies will be available. And IPTV operator Maxisat in Finland has shown 93% of its subscribers can receive HDTV at home using ADSL2 networks with MPEG4-AVC technology.

HD4U also provided industrial partners with the opportunity to develop prototypes for encoding, modulation, IP encapsulation, set-top boxes and LCD screens and deploy commercial products a year after the end of the project. This includes a second-generation MPEG4-AVC encoder that targets a 50% gain in compression compared with MPEG2, making it possible to increase the number of channels transmitted .

"We have already sold more than one hundred encoders since the end of the project," adds Schwartz. "Our biggest opportunities are in the USA, thanks to the funding obtained through the ITEA project. Access to this market would have been much slower otherwise."

Photos courtesy of EURO1080, TF1 and THOMSON.

M – ITEA 2 Magazine • Decmber 2008 - no. 2

Ongoing project

HDTVNext
ITEA 2 ~ 07005

HDTV
Coherent approach to end-to-end Full HDTV deployment

As commercial deployment of high definition television (HDTV) begins to take off in Europe, the ITEA 2 HDTV Next project has taken up the baton from the HD4U ITEA project to investigate and develop the next-generation HDTV platform and the means of deployment for Full HD performance for both HDTV in-the-home and HD video-on-demand applications. This involves the development and demonstration of a coherent HDTV 1080p 50 Hz end-to-end solution to synchronise the professional content creation, distribution and home user access areas.

Dominique Défossez
NXP Semiconductors France,
project leader HDTVNext

HDTV Next was proposed by Thomson but NXP Semiconductors was asked to take on the co-ordination role. NXP-Semiconductors is specifically involved in the video-encoding format considering critical for the chipmaker. The project involves 22 partners from five countries, including some of the biggest equipment and distribution players such as Thomson, Philips, Pace, NXP, Thales and Telefonica.

The focus of HDTV Next is on real full HD with 1920 x 1080 resolution and progressive scan at 50 frames/sec – so-called HD 1080p-50Hz. The project covers three elements: professional content creation – cameras, studios, …; distribution – digital terrestrial (DTT) and IP; and home access – consumer equipment.

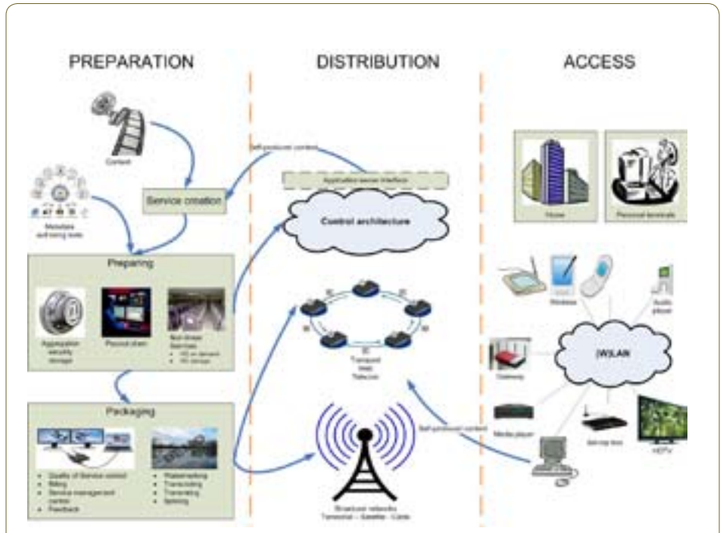
In Europe, the professional area is taking advantage of multiplexing more signals in a given bandwidth to send HD TV programmes in place of standard-definition ones. In the middle of the chain, the distribution area is in the process of replacing analogue signal transmission by digital techniques. And at the consumer end of the chain, users are investing in new flat screens using progressive scan to replace cathode ray tube based TVs.

A REAL JIGSAW PUZZLE

"The problem in the HD world is a jigsaw puzzle with different approaches and levels of maturity," says Dominique Defossez of NXP in France. "And there is much abuse of the term HD." As a result, professional creation, distribution and TV sets are evolving independently.

"The key challenge is to achieve a homogeneous solution covering the whole chain without reducing quality," says Dominique Defossez. "A second challenge is to achieve full 1080p at 50 Hz; in particular we need to develop interfaces able to transmit the video from the camera to the encoder input with a bandwidth of 3Gbits/s, to optimize the compression and to develop a high-speed encoder."

Three options exist for compression: the most common and widespread option for signal distribution is MPEG4-AVC, while for programme preparation the preferred choice is JPEG 2000, which is less efficient but offers lower losses. The third alternative is MPEG4-SVC (scalable video coding) that provides a choice of resolutions at the consumer end adaptable to a range of different displays. HDTV Next is looking at all three options.



End-to-end chain architecture

The new project started only in April 2008 and is still collecting use cases – 17 have been selected to date. It has also identified two main scenarios: video on demand; and displaying HD at home – covering all type of networking, including wireless.

REAL HD QUALITY RESULT

The major results expected from HDTV Next include:

- Overall quality increased thanks to 1080p formats at 50 frames/second;
- Optimisation of audio content rendering in the home for HD content with access to other sources for entertainment and communication with the focus of common participation in media creation, distribution, and sharing;
- Facilitation of the consumption and production of 1080p 50 Hz HD content by ensuring a backward compatibility with the first HD generation and by integrating into the demonstrators the means of managing self-produced contents from fixed, mobile and/or wirelessly-connected terminals;
- Integration of HD content into a multiple viewing, multiple-task home environment with use of rich interactive media to control the experience of non-linear content such as HD content-on-demand services; and
- Compatibility between the different elements of the HD video end-to-end chain, including new terminals such as portable video players.

While the focus of the project is very much on Europe, a good solution should be exportable.

Partners
Activa Multimedia
Barco
DS2 *(Design of Systems on Silicon)*
Energy Sistem Soyntec
ESI *(European Software Institute)*
Grass Valley France
Information & Image Management Systems
LRSM-ENSIIE
Maxisat
Mobilera
NXP Semiconductors France
NXP Semiconductors NL
ON2
Pace France
Philips Innovative Applications
ROBOTIKER-TECNALIA
Telefónica I+D
Televisió de Catalunya
Thales Communications
Thomson R&D
Trinnov Audio
UAB *(Universitat Autònoma de Barcelona)*
VITEC Multimedia

Countries involved
Belgium
Finland
France
Spain
Turkey

Project start
April 2008

Project end
March 2010

LOMS
(ITEA ~ 04012)
Creating smart services wherever you want

EMODE
(ITEA ~ 04046)
Model-based approach cuts cost of complex user interfaces

OSIRIS
(ITEA ~ 04040)
Integrating services on the run

LOMS
(ITEA ~ 04012)
Marc Roelands, Devoteam
Telecom & Media, Belgium

Creating smart services wherever you want

The LOMS project has determined a roles model, methodology and service-oriented architecture (SOA) based service-creation architecture, based on a service templates paradigm, which makes it easy to create and launch tailored, local and smarter services. Sample services – and service templates – have been demonstrated to prove the concept for various device types and business models, and short-term exploitation opportunities have been identified.

Many network operators are keen to be more than plain bit-pipe providers. They would like to be able to offer a portfolio of so-called 'long tail' services, addressing the smaller service markets among their large customer bases and that they would like to manage and charge according to flexible models, while keeping their operational expenditure targets within justifiable limits.

At the same time, more and more businesses want to use Internet and Internet technologies to market their products and services, particularly to mobile users and via new channels like digital TV. However, designing and establishing more advanced web business that leverages underlying technology to a valuable extent requires specialised knowledge that is just not available in most organisations – especially small businesses, independent professionals and others keen to participate in the e-trend by offering their services to their local niche of customers. Such people generally lack the technical know-how to address these specific niches.

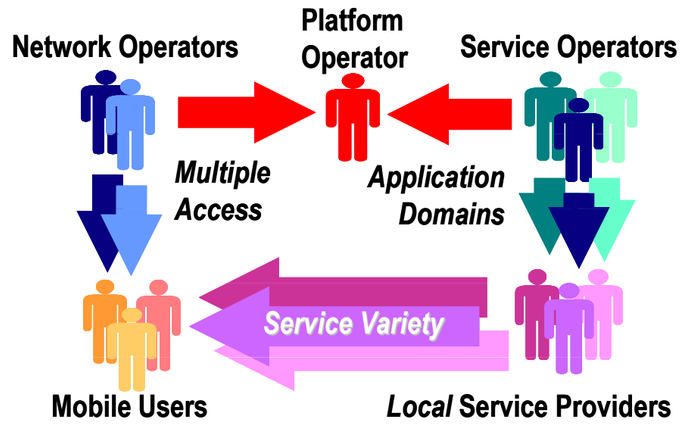
While various attempts have been made over the past few years to offer simplified programming environments, technical knowledge is still required. LOMS therefore set out to combine service creativity easily with rich, powerful features of a well-controlled service environment.
It has achieved this by removing the many barriers through the introduction of new intermediaries in the value chain. These consist of enabling services on service platforms and service operators offering layers of service templates for specific application domains that can be used with no technical knowledge. The service templates encapsulate the service components in a transparent manner to the service providers. As a result, local businesses can now easily launch smarter services through more channels.

AGILE SERVICE CREATION
The objective of LOMS was the establishment of agile service creation through partnerships and alliances while resolving the complex technical implications of such models as well as the service creation process itself.

This involves two key elements:
1. The notion of 'local' services tailored to the needs of a specific niche market, a specific local culture or communities, or a specific geographical area such as cities, streets, shopping centres or factory sites – such services would typically be location-based to a degree, and often use mobile devices; and
2. The idea of an ecosystem of such services, building on the popularity of the Internet, combining the benefits of mass creativity and mass involvement, with the enabling functions of existing telecommunications and media network deployments.

To populate such an ecosystem of local services, LOMS has introduced a number of intermediate value chain actors in the service-creation process:
- *Platform operators*, who provide the run-time platform and expose network-related enabling services through it, either related to network operators or not;
- *Service operators*, who add domain-specific knowledge into LOMS service templates for a specific market sector, possibly in multiple, abstracting layers; and
- *Service providers*, who drive the market by launching new services based on LOMS service templates, fast and easy, addressing the demand of their specific – local – market niche.

At the architectural level, LOMS has identified so called service templates as the way to provide the actors in the service-operator role with a means to encapsulate their domain or technological expertise for easy use directly by service providers, or by higher layer service operators.



LOMS Value Chain Roles Model

PREDEFINED SERVICE ORCHESTRATION
The LOMS service templates approach is built on general SOA principles but, unlike other approaches to easy service creation, the templates enable service operators to predefine the orchestration flow between underlying building blocks according to a software variability principle.

LOMS demonstrated this using the web-services business-process execution language WS-BPEL – as well as other languages – inside the templates. This gets transformed as part of each individual template application, using simple questionnaire answers by service providers as inputs before launching the provider's specific service.

As a result, service providers do not have to become involved in the basic design but can concentrate on the service business itself, while the service and platform operators define how exactly the service is operated, performing the operations business in a 'macro' view.

Moreover, this makes it possible to extend SOA principles across the entire service lifecycle, as each actor creating and operating a service template can make it self-contained concerning the data provisioning and code deployment it allows, supporting separation of concerns between the actors involved. Such service templates can also encapsulate logic for user subscription, as well as management by the service provider, for the actual service logic.

The LOMS approach was demonstrated in two different domains:
1. *Local news publishing* – a business to consumer application that involved map-related news items, as well as personalised TV community news. Readers could log on to their mobile phone or TV and access news feeds of direct local interest; and
2. *Machinery field service* – a business-to-business application that allowed automation of the field force network, combining electronic customer relationship management (eCRM) with specialised workflow control.

SERVICE CREATIVITY IN A CONTROLLED ENVIRONMENT
The LOMS project has shown that it is possible to combine service creativity with the rich features of a well-controlled service environment, hiding complexities to service operators and offering easy service creation and management to service providers. Guided by methodological guideline documents, clear value is offered to real-world commercial actors wanting to take up any of the LOMS value-chain model roles.

The concepts have opened a broad set of opportunities in concrete solutions of LOMS partners and their customers, in concrete commercial exploitations of parts of the framework, the enabling services or elaborated service template examples.

Some of the elements developed are already being exploited commercially. In Belgium, the LOMS approach makes it possible to offer niche digital TV services over an IPTV network, while in Germany, a newspaper in Stuttgart is already offering a map-based local news service in co-operation with an Internet mapping provider.

Example LOMS services on end user devices

EMODE
(ITEA ~ 04046)
Sebastien Praud, Thales, France

Model-based approach cuts cost of complex user interfaces

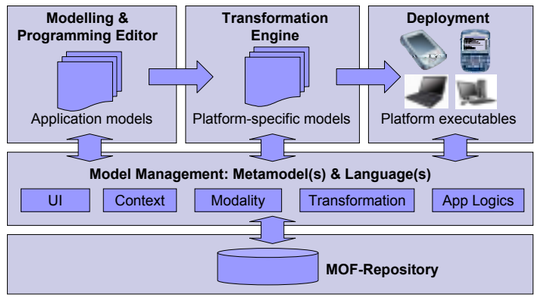
The EMODE project showed that it is possible to simplify user interaction for complex business systems at low cost. Use of a model-based approach to design the user interface enables automation of development and so improves productivity, maintenance and evolution by a factor of three to four. This ensures gains in terms of efficiency, effectiveness, satisfaction and cost. Moreover, models used for design can be reused to manage interactions, ensuring coherence between user requirements, designers' developments and final operation.

State-of-the-art adaptive multimodal interfaces providing the user with new means of interaction such as voice or gesture and dynamically adapting to user needs have not yet reached the professional systems market. Current user interfaces (UIs) are designed and set up once and for all without any provision for adaptation at runtime. As a result, UIs remain the weak point of many complex systems, the problem of human-computer interaction not being considered as a central issue in their design and development.

Smartphone / touch screen

While user interfaces for domestic equipment or large public applications have been made much easier to use in recent years, complex business system interfaces still rely on classical window, icon, menu, pointing device (WIMP) interaction. This often leads to non-natural interaction or to long sequences of interactions to access some functionalities. In the worst cases, operators suffer a cognitive overload in critical situations: too much information, too many actions to perform or non-access to additional information without losing the context.

Industrial systems providers argue that introducing state-of-the-art modalities and adaptability functionalities is too costly in terms of benefits, usability and reusability or global return on investment. For example, a grammar for a voice-recognition and command system requires some 10 Mbyte of text. Such an investment is huge for a single system and even worse if it cannot be adapted or reused subsequently.



Example of EMODE Conceptual Design Environment

TWO MAJOR INNOVATIONS

EMODE set out to make the next generation of human-machine interfaces (HMIs) for professional systems much easier to use. In particular, the aim was to tailor UIs of complex systems to specific customers' needs. To achieve this, EMODE introduced two main innovations:

1. A *model-driven approach* for adaptive multimodal interactive systems that is particularly cost effective. The EMODE approach applies models as a means of abstraction that can be augmented step-by-step in an iterative process with platform-specific information using model transformation. This makes possible a semi-automatic transfer into an executable software system.

   As a result, EMODE's methodology simplifies the design of adaptive multimodal interfaces. New software architectures clearly separate system design from user interface design. Modelling techniques are used to design generic user interfaces that can then be tailored to specific application domains, users and contexts of use. Last but not least, model-transformation techniques make the design and implementation process as automatic as possible and thus considerably lower the cost of user-interface production.

   The return on investment is linked to the introduction of new modalities and reusability of models thanks to:
   – Increased productivity through time saving in design and development phases;
   – Easier adaptation to new systems thanks to a new interaction architecture;
   – Easier adaptation to new customer-specific needs; and
   – Better maintainability thanks to model manipulation, automatic generation and readability.

2. A new *interaction paradigm* made possible by the use of design models during the runtime phase. This provides coherence between user requirements expressed during the design phase, and the interactive systems – both classical HMIs and new interactive modalities. At the end of the design process, the interaction – use of modalities to achieve the user's task – is the real front-end of the user needs and totally matches these requirements. EMODE's interaction architecture and model-based approach lead to a natural multimodal interaction with no user frustrations.

PROVEN IN FOUR DIFFERENT DOMAINS

The runtime environment for adaptive multimodal applications developed in EMODE was validated in a series of demonstrators covering four domains with different kinds of users:

1. Daimler developed an interface offering vocal commands for an advanced in-car navigation system. A particular advantage was the ability to access 'hidden' commands quickly – a single vocal command could replace up to six mouse clicks. It was also possible to develop the whole interface in only two or three weeks;
2. Philips showed the benefit of the EMODE approach in a home entertainment system application, enabling domestic multimedia server systems to be controlled by a mobile phone;
3. THALES proved the efficiency in the complex and constrained domain of maritime surveillance. The purpose of the system was to identify ships in a predefined zone as well as detecting and processing events such as accidents or pollution. The interface was designed to use natural language and dialogues for multimodal interaction; and
4. BASF demonstrated the design and runtime approaches in the context of mobile plant maintenance.

EMODE Demonstrators' Domains

From an interface developer's point of view, the evaluation of the EMODE approach has impressively demonstrated its benefits for model-based HMI development. After an adequate initial training phase supported by extensive documentation, applications supporting text as well as voice modalities can be implemented in less time than with traditional methods and tools. Following the model-based design approach, EMODE demonstrated performances three to four times better than usual for productivity, maintenance and evolution with an automation of the development. In case of porting, only specific code has to be redeveloped.

EMODE not only proved that such kind of devices and modalities are cost effective but the models used for design can be reused to manage the interaction, ensuring coherence between user requirements, designers development and final interaction.

OSIRIS
(ITEA ~ 04040)
J. Bermejo, H.P. Dahle, T.Grimstad

Open Source Infrastructure for Run-Time Integration of Services

Integrating services on the run

The OSIRIS project targeted development of a cross-domain open-source platform that supports service provision, aggregation, delivery and dynamic contextual adaptation across many different domains and that makes use of the Internet infrastructure. A powerful business demonstrator is now being evaluated by the Norwegian authorities to simplify future electronic tax declarations by individuals and businesses.

The value of a software product is frequently lower than the services around it. In other cases the software is part of a product (e.g. embedded software) or provided as a service (e.g. Internet based services). As a result, open source software is becoming a recognised strategy for focusing on real value. Moreover, services are currently driving the economy in the Organisation for Economic Co-operation and Development (OECD) countries. ICT services were already more than two thirds of ICT sector value added in most countries in 2003.

However, despite current IT technology leaders investing heavily in open-source development, few organisations really understand and foresee the key role it will play in future global service ecosystems.

In all business domains, value is strongly related to knowledge about the customer. There is a key difference between products and service systems: a product manufacturer has limited information about a customer once ownership is transferred. However, a service system maintains close interaction with the user, allowing for continuous improvement.

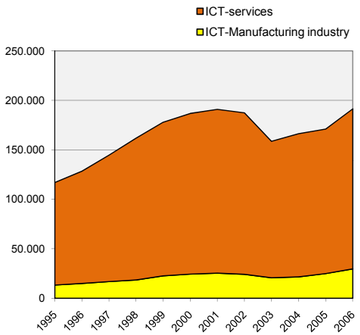
Service systems are product independent with value measured in terms of quality of service delivered to the customer – human or machine. They have clear competitive advantages compared with products as their close relationship with users allows continuous improvement and greater personalisation.

DEVELOPING A MULTI-ACCESS SERVICE

OSIRIS set out to demonstrate the technical possibility of deriving service systems for multiple domains from the same platform that allowed deployment and evolution in run-time without systems interruption. Demonstra-

tors from financial, customer relationship management (CRM), tax service, development tool and end-to-end service domains provided test beds for validating the achievements.

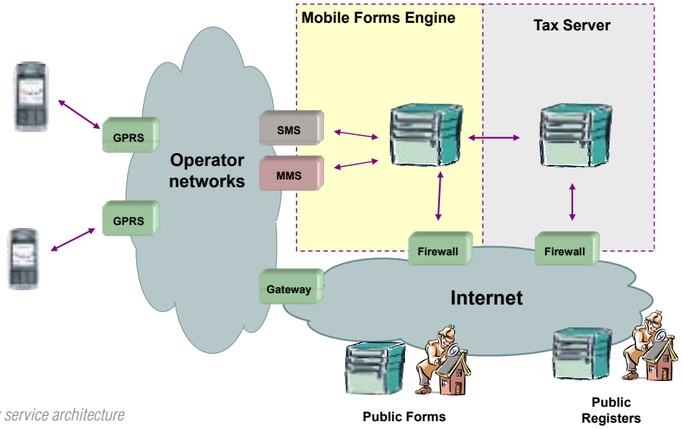
A service system for the Norwegian Tax Directorate illustrates the achievements of OSIRIS business demonstrators. Statistics for Norway show services dominate its ICT sector. Moreover the public sector is the driving force when applying ICT for services, with the Tax Directorate as the locomotive. A public web-based self-declaration service was launched in 1999. At the same time, the Directorate enabled reporting for companies via the web and directly from enterprise resource planning (ERP) systems.



Total sales in million NOK for ICT-services and ICT-Manufacturing industry, Source: http://www.ssb.no

So it was natural for ICT-Norway to invite the Tax Directorate to participate in OSIRIS, a project where the core theme is support for innovative services. The rationale for joining was twofold: to gain experience and competence in mobile technology and investigate if mobile phone and digital TV channels could be used for electronic tax services; and to get input for continuous development of electronic service and channel strategies.

Since the late 1990s, telecommunications companies had co-operated with the Technical University in Trondheim to develop a platform and laboratory for mobile services. Karde and TelIU – subcontractors to ICT-Norway in OSIRIS – used these results to develop a prototype tax service running on a mobile phone for the Tax Directorate. The architecture involves mobile phones connected to a dedicated server through a mobile network. This dedicated server collects background services from tax and other servers located throughout the country in different public organisations.



Tax service architecture

CREATING A SET OF BUILDING BLOCKS

A year into the project it was agreed to create a set of building blocks enabling upstream definition and development of interactive tax services and downstream access to such services through mobile phones, digital TVs and the web. The idea was that a user could initiate a tax service session in one channel and, later, complete the activity through another channel.

Services were implemented in XForms and OSIRIS developed an XForms engine for the mobile phone. The same engine was used for the digital TV, as it was felt the TV was more like the phone than the web.

An important spin-off was a universal user interface for mobile phones to make electronic public services accessible to anyone, including those with cognitive and other difficulties. It is possible to add audio help features. The sound is streamed in real time from the server to the mobile phone. An adaptation mechanism enables constant matching of sound quality to available bandwidth.

Services accessed on small devices such as mobile phones require short, precise explanations. On the web, help functions for different tax services are long and complicated, with legally-correct statements that are difficult to apply in the mobile. Help functions need rework to fit the mobile channel; such simplification would also benefit the web services. This is a legal issue being discussed in the Tax Directorate.

Goals set for the tax activities in OSIRIS were met with three tax services trialled. The tax authorities are now debating if the project results should be the basis for production and launch of mobile tax services.

BUILDING A COMMON VISION

The project built on the platform developed in the ITEA OSMOSE project. The ITEA COSI software engineering project also contributed to building a common vision through the interaction between complementary software engineering and middleware initiatives.

Starting from the OSMOSE results, OSIRIS demonstrated the leveraging of its principles to service systems through powering of the computing nodes with a bus for visualising the distributed physical infrastructure. A repository of service implementations – the OSIRIS Active Repository – performs the role of software provisioning platform updating computing nodes on request/needs. Thus, the distributed physical infrastructure is transparent for the development of system services.

OSRIS demonstrated that investment in a single open-source platform can benefit service systems and vertical application in multiple domains. Its dynamic building approach also seems close to 'Cloud' principles for on-demand computing and software middleware infrastructure.

The OSIRIS project contributed to understanding of future challenges. Due to the close interaction between users and service systems the principles for the new generation of global service systems should be defined to avoid user lock-in and allow sustainable open-service ecosystems. Most OSIRIS partners together with others will elaborate further achievements in a follow-up project: OSAMI-Commons (Open Source Ambient Intelligence – Commons).

Calendar | what is happening, where and when

Upcoming events

16-17 February 2009

ITEA 2 PO Preparation Days 2009

LOCATION
ISTANBUL, TURKEY

MORE INFO
ITEA 2 Website:
www.itea2.org

ITEA 2 PO Days Website:
www.itea2.org/po_days2009

ITEA 2 will open its 4th Call for projects on 16 February 2009. Now is already the time to prepare!

We are organising Project Outline Preparation Days on **16 and 17 February 2009** in Istanbul, Turkey. The aim of this two-day meeting is to help organisations form consortia and generate preliminary outlines for projects by bringing together interested companies, research institutes and universities with innovative ideas for projects in ITEA 2. Participation is free of charge.

If you are interested in participating in this two-day event, go to our website and fill-in the online registration form – www.itea2.org/po_days2009

11 - 12 March 2009
CELTIC EVENT 2009
Future Directions in Telecommunications and ICT

PARIS,
FRANCE

The main objective of the event is to present the current status, the available results and developments of the running Celtic projects.

http:/www.celtic-initiative.org

26 – 29 May 2009
4TH INTERNATIONAL IEEE WORKSHOP ON SERVICE ORIENTED ARCHITECTURES IN CONVERGING NETWORKED ENVIRONMENTS

SOCNE
BRADFORD, UK

This IEEE workshop encourages communication and exchange of ideas between industrial and academic researchers and developers in the field of service-oriented architectures, their design and engineering process as well as their deployment in application prototypes.

Related ITEA projects: SODA, LOMS and OSIRIS.

http:/www.c-lab.de/rls/SOCNE09/

EUREKA news • Portugal 2008-2009

Portugal keen to expand the EUREKA effect

EUREKA makes a major contribution to European competitiveness and has an important role in the realisation of the European Research Area (ERA). Portugal is keen to continue the proposals made by Slovenia to widen membership and increase visibility as it takes over the chairmanship of the EUREKA research network. Portugal was one of the original members of the network over 20 years ago and this is the second time that it has held the chair.

"EUREKA is a flexible network that has already seen more than €26 billion of public-private investment in over 3,000 projects in its 23 years of existence," says Manuel Nunes da Ponte, Portuguese chair of the EUREKA High Level Group. The network now has some 40 members and the information and communications technology sector accounts for some 23% of its effort.

Clusters like ITEA 2 play a major role in EUREKA, offering a strategic view with a critical mass of key players including large companies, SMEs, universities and research institutes. The Clusters are largely autonomous, developing their own roadmaps and evaluating projects accordingly. However, EUREKA welcomes and indeed needs the input from the Clusters. "Our intention is to continue to get closer to the Clusters and to open up network activities to Cluster participation," says Nunes da Ponte.

NEW IDEAS AND NEW ACTORS

The new chair has already got off to a strong start with the success of Eurostars – the joint EUREKA-EU programme for R&D-performing small and medium-sized enterprises (SMEs). This programme is designed to align and synchronise relevant national research and innovation efforts in a joint programme funded by both the Commission and participating member countries, marking an important contribution to ERA. In its first call a third of the proposals are addressing ICT topics, demonstrating that Eurostars significantly strengthens ICT research and innovation in Europe. "Eurostars is bringing in new actors and new ideas," says Nunes da Ponte.

Nunes da Ponte sees two major challenges for EUREKA for the future:

1. *EUREKA and ERA:* In future we expect more outsourcing of R&D activities by the European Commission – a role in which EUREKA has already demonstrated its ability through Eurostars with trustworthy evaluation by trustworthy experts; and
2. *EUREKA outside Europe:* currently only 2% of the EUREKA projects have non-European partners but there is growing interest for cooperation from industrialised countries as well as emerging and developing economies.

ITEA 2

INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT